

# *Perotrochus metivieri*, a New Species of Pleurotomariid from the South China Sea (Gastropoda: Pleurotomariidae)

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## ABSTRACT

*Perotrochus metivieri*, a new species of pleurotomariid, is described from bathyal depths in the South China Sea. It belongs to the thin-shelled group within *Perotrochus* termed "Group B" by Bayer (1965) and "*Perotrochus africanus* - complex" by Wagner and Coomans (1990). Comparisons are made with the other species of *Perotrochus sensu lato* that inhabit this area.

**Key words:** Pleurotomariidae, *Perotrochus*, new species, South China Sea.

## INTRODUCTION

A medium-sized specimen of *Perotrochus*, live-collected but lacking soft parts or operculum, was first brought to our attention by Mr. G. Campanini of Pavia, Italy, who had obtained it indirectly from Russian trawlers operating in the South China Sea off Vietnam. Identification proved problematic as this specimen resembled to a certain extent both juvenile examples of the high-spined form of *Perotrochus africanus* Tomlin, 1848 and large adult specimens of *P. vicdani* Kosuge 1980. A second specimen was obtained by Mr. Donald Dan of Baltimore, USA. The data accompanying this specimen was vague. The shell came from a Russian source and was alleged to have been taken off New Zealand. A third specimen has since been obtained by the junior author.

Close examination and direct comparison of these three specimens revealed consistent differences in a series of characters in shell morphology that allow these specimens to be distinguished from other Recent Pleurotomariidae. This species is herein described as new, even though the locality data supplied with all three specimens is imprecise.

## SYSTEMATICS

Superfamily Pleurotomarioidea Swainson, 1840

Family Pleurotomariidae Swainson, 1840

Genus *Perotrochus* P. Fischer, 1855

*Perotrochus metivieri* Anseeuw and Goto, new species (Figure 1)

**Description:** Shell (fig. 1) medium-sized for genus (maximum diameter to 68.0 mm, minimum diameter to 59.4 mm, height to 60.4 mm), thin, light, non-umbilicate. Shell profile trochiform with clearly gradate spire. Suture adpressed. Mean spire angle 82° (n = 3), profile of periphery rounded, base moderately convex. Protoconch damaged or worn on all specimens, glassy, of slightly more than 1 whorl, with weakly flared lip. Teleoconch of up to 7+ whorls. Selenizone appears near suture in first 1/4 whorl, descends to mid-whorl by whorl 2, and below mid-whorl by whorl 5. Selenizone flush with whorl surface or slightly concave, margins flush or slightly keeled. Anal slit broad (to 4.4 mm), long, with upper margin spanning up to 100°, lower margin to 72°. Axial growth striae dominant and strongly prosocline between suture and selenizone, weak and prosoclyt between selenizone and periphery, opisthoclyt on selenizone. Spiral sculpture of thin cords (10-12 between suture and selenizone, 1 on selenizone, 5-6 between selenizone and periphery) well-defined on early whorls, creating distinctly cancellate, finely beaded sculpture above and below selenizone of first 3-4 whorls. After 4th whorl, spiral cords rapidly become obsolete, persisting only as irregularly-spaced threads in area near the suture and between selenizone and periphery. Aperture subquadrate to oval, curve of columella gently sigmoidal, columellar margin nacreous, not thickened, extending 1/5 the distance from axis to periphery. Umbilicus excavated but imperforate. Base weakly convex, with 40-44 fine spiral cords intersected by regular, fine, axial growth lines, producing finely cancellate surface. Protoconch and first teleoconch whorl porcellaneous white; base color of teleoconch buff with occasional darker patches and slight, pinkish suffusion at margins of selenizone. Entire outer surface slightly iridescent due to thinness and translucency of outer shell layer. Interior of aperture (except base of previous whorl) covered by thin nacreous layer, within which the pattern of exterior sculpture is discernible. Nacre covers inner surfaces above and below slit, with extremely thin chamfer of constant width at slit margins. Operculum and soft parts unknown.

**Type locality:** Trawled in 350 m in the South China Sea off Vietnam.



Figure 1. *Perotrochus metivieri* Anseeuw and Goto, new species. Apertural, lateral, apical and ventral views of the holotype (USNM 880085), off Vietnam, South China Sea. Maximum diameter = 51.1 mm.

**Type material:** Holotype, USNM 880085, (max. diameter 51.1 mm, min. diameter 44.7 mm, height 43.8 mm), off Vietnam, South China Sea. Paratype 1, Anseeuw collection, (max. diameter 68.0 mm, min. diameter 59.4 mm, height 60.4 mm), from the type locality. Paratype 2, Dan Collection, (specimen damaged, max. diameter unknown, min. diameter 59.8 mm, height 56.5 mm) New Zealand (?).

**Etymology:** This species is named for Dr. Bernard Méti-  
 vier of the Laboratoire de Malacologie, Museum na-

tional d'Histoire naturelle, Paris, in recognition of his extensive work in the field of Malacology and his contributions to the knowledge of western Pacific Pleurotomariidae.

**Comparative remarks:** *Perotrochus metivieri* is readily distinguished from all other species hitherto reported from the South China Sea: *Perotrochus hirasei* Pilsbry, 1903 (Bondarev, 1991), *P. teramachii* Kuroda, 1955 (Lan, 1994; Okutani, 1979), *P. caledonicus* Bouchet and Méti-  
 vier, 1982, and *P. vicdani* Kosuge, 1980 (Raybaudi,

1992). In silhouette it most closely resembles the southern Atlantic species *Perotrochus atlanticus* Rios and Mathews, 1968, particularly in the profile of the spire, but is otherwise unmistakable. Of the other species from the western Pacific, *P. tangaroana* Bouchet and Metivier, 1982, is similar in size and construction and similarly lacks a clear color pattern, but can be distinguished from *P. metivieri* by its higher, less gradate spire profile, more inflated base with correspondingly rounder aperture, and shorter, narrower slit. *Perotrochus metivieri* might be confused with juvenile *P. teramachii* Kuroda, 1955, but the former is smaller in adult form, lacks any clear patterning, and has a flatter base than *P. teramachii*. *Perotrochus metivieri* resembles in some respects certain specimens of *P. vicdani* Kosuge, 1980, from the South China Sea, but these differ in having strong coloration and patterning as well as finely beaded sculpture on the teleoconch.

Paratype 1 of *P. metivieri* differs somewhat in shape and appearance from the holotype, in particular by having a distinctly constricted penultimate whorl and slightly taller profile. Constriction of the whorl in mature adult specimens is a phenomenon occasionally observed in other pleurotomariids and may be indicative of a gerontic stage.

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